

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9208190198 DOC. DATE: 92/08/13 NOTARIZED: NO DOCKET #  
 FACIL: 50-397 WPPSS Nuclear Project, Unit 2, Washington Public Powe 05000397  
 AUTH. NAME AUTHOR AFFILIATION  
 SWANK, D. A. Washington Public Power Supply System  
 BAKER, J. W. Washington Public Power Supply System  
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 92-035-00: on 920715, determined that post-mod testing of  
 scram discharge vol vent & drain valves inadequate based on  
 data obtained from 920706 reactor scram. Plant procedures  
 changed & TS amend request to be submitted. W/920813 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 6  
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

## NOTES:

RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL
PD5 LA	1 1	PD5 PD	1 1
DEAN, W.	1 1		
INTERNAL: ACNW	2 2	ACRS	2 2
AEOD/DOA	1 1	AEOD/DSP/TPAB	1 1
AEOD/ROAB/DSP	2 2	NRR/DET/EMEB 7E	1 1
NRR/DLPQ/LHFB10	1 1	NRR/DLPQ/LPEB10	1 1
NRR/DOEA/OEAB	1 1	NRR/DREP/PRPB11	2 2
NRR/DST/SELB 8D	1 1	NRR/DST/SICB8H3	1 1
NRR/DST/SPLB8D1	1 1	NRR/DST/SRXB 8E	1 1
<del>REG FILE</del> 02	1 1	RES/DSIR/EIB	1 1
RGN5 FILE 01	1 1		
EXTERNAL: EG&G BRYCE, J. H	2 2	L ST LOBBY WARD	1 1
NRC PDR	1 1	NSIC MURPHY, G. A	1 1
NSIC POORE, W.	1 1	NUDOCS FULL TXT	1 1

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK.  
 ROOM P1-37 (EXT. 504-2065) TO ELIMINATE YOUR NAME FROM DISTRIBUTION  
 LISTS FOR DOCUMENTS YOU DON'T NEED!

ADY

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

P.O. Box 968 • 3000 George Washington Way • Richland, Washington 99352

August 13, 1992  
G02-92-194

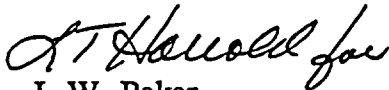
Docket No. 50-397

Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

**SUBJECT: NUCLEAR PLANT WNP-2, OPERATING LICENSE NPF-21  
LICENSEE EVENT REPORT NO. 92-035**

Transmitted herewith is Licensee Event Report No. 92-035 for the WNP-2 Plant. This report is submitted in response to the report requirements of 10CFR50.73 and discusses the items of reportability, corrective action taken, and action taken to preclude recurrence.

Sincerely,



J. W. Baker  
WNP-2 Plant Manager (Mail Drop 927M)

JWB/DAS/cgeh  
Enclosure

cc: Mr. J. B. Martin, NRC - Region V  
Mr. C. Sorensen, NRC Resident Inspector (Mail Drop 901A, 2 Copies)  
INPO Records Center - Atlanta, GA  
Mr. D. L. Williams, BPA (Mail Drop 399)

9208190198 920813  
PDR ADCK 05000397  
S PDR



# LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)

Washington Nuclear Plant - Unit 2

DOCKET NUMBER (2)

0 5 0 0 0 3 9 7

PAGE (3)

1 OF 5

TITLE (4)

INADEQUATE TESTING OF THE SCRAM DISCHARGE VOLUME VENT AND DRAIN VALVES

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)													
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBERS(S)												
0	7	1	5	9	2	9	2	--	0	3	5	--	0	0	0	0	0	0	0	0	0	0

OPERATING MODE (9) 4 THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

POWER LEVEL (10)	0	0	0	20.402(b)	20.405(C)	50.73(a)(2)(iv)	77.71(b)
				20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.73(c)
				20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
				20.405(a)(1)(iii)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
				20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
				20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
D. A. Swank, Compliance Engineer	
	AREA CODE
	5 0 9 3 7 7 - 4 4 5 1

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)
	MONTH DAY YEAR

ABSTRACT (16)

On July 15, 1992, it was determined that inadequate post modification testing of the scram discharge volume vent and drain valves during the R7 maintenance and refueling outage resulted in a reportable condition of one of the valves being inoperable. Technical Specification Surveillance Requirement 4.1.3.1.4.a.1 states that the vent and drain valves must close within 30 seconds of receipt of a signal for control rods to scram. A review performed on July 15<sup>th</sup> of data obtained from a reactor scram on July 6<sup>th</sup> revealed that CRD-V-181 closed in 33 seconds. Further review revealed that the surveillance procedure normally used to satisfy this requirement was inadequate in that it did not accurately measure the valve stroke time. This condition is also reportable.

The root causes for this event were inadequate post maintenance testing after modifications to the vent and drain valves during the R7 outage, and technically inaccurate procedures in that the Plant procedure normally used to satisfy this surveillance requirement did not accurately time the valves.

Corrective actions for this event include: 1) testing to satisfy the surveillance requirement was performed; 2) Plant procedures will be changed to accurately stroke time test the vent and drain valves; 3) a team of engineers will start work on a technical review of the surveillance procedures to verify acceptability; 4) a Technical Specification Amendment request will be submitted to allow performance of this testing in the cold shutdown condition; and 5) this LER will be required reading for Plant Engineers responsible for implementation of Plant modifications.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION												
FACILITY NAME (1) Washington Nuclear Plant - Unit 2		DOCKET NUMBER (2) 0   5   0   0   0   3   9   7						LER NUMBER (8) Year   Number   Rev. No. 92   035   00			PAGE (3) 2 OF 5	
TITLE (4) INADEQUATE TESTING OF THE SCRAM DISCHARGE VOLUME VENT AND DRAIN VALVES												

Since the ASME Section XI test verified closure of the vent and drain valves on demand, and since at least one valve in each line closed in significantly less than the required 30 second time period, this event was not safety significant.

This event did not present a threat to the health and safety of either the public or Plant personnel.

#### Plant Conditions

Power Level - 4 (Shutdown)  
Plant Mode - 0%

#### Event Description

On July 15, 1992, during the review of test data by a Plant Engineer it was determined that CRD-V-181, a scram discharge volume drain valve, did not meet the Technical Specification Surveillance 4.1.3.1.4.a.1 requirement to "Close within 30 seconds after receipt of a signal for control rods to scram." The four scram discharge volume vent and drain valve pneumatic actuators were modified during the R7 maintenance and refueling outage and required retesting and verification of acceptable stroke time within 12 hours of reaching 50 percent rod density. The valves were stroke timed in accordance with the WNP-2 ASME Section XI Pump and Valve Inservice Test Program Plan (P&V) prior to Plant restart and a baseline time was obtained to support future testing. Because of the test conditions, however, this quarterly surveillance procedure does not satisfy the 30 second requirement. Computer data from an unscheduled Plant trip on July 6, 1992, was immediately reviewed and this data showed that CRD-V-181 stroked in 33 seconds from the time of a scram signal.

#### Immediate Corrective Action

Since the Plant was in Operating Condition 4 when this condition was discovered, and the vent and drain valves were not required to be operable in that Condition, no immediate actions were required.

#### Further Evaluation and Corrective Action

##### A. Further Evaluation

As part of the review of this event it was determined that post maintenance testing of the four scram discharge volume vent and drain valves utilized the P&V surveillance test. The test performed was the P&V test which is based on the WNP-2 request for relief previously approved by the NRC. The main control board red (open) and green (closed) position indicating lights for these four valves are combined. That is, there is a single green light and a single red light for each pair of valves (the two vent valves are combined and the two drain valves are combined). The relief granted allows quarterly stroke time testing of the valves using the combined indicating lights. This testing is not

LICENSEE EVENT REPORT (ER) TEXT CONTINUATION							
FACILITY NAME (1)  Washington Nuclear Plant - Unit 2	DOCKET NUMBER (2)  0   5   0   0   0   3   9   7	LER NUMBER (8)			PAGE (3)		
		Year 92	Number 035	Rev. No. 00			
TITLE (4) INADEQUATE TESTING OF THE SCRAM DISCHARGE VOLUME VENT AND DRAIN VALVES					3	OF	5

sufficient to satisfy the requirements of Technical Specification Surveillance 4.1.3.1.4.a.1 in that each valve is not individually tested and the period of time from the "receipt of a signal for control rods to scram" until the valves receive a closure signal is not accounted for.

A review of the work package associated with the actuator modifications shows that the originally specified post-modification testing would not have satisfied either the P&V requirements or the 30 second requirement of Technical Specification Surveillance 4.1.3.1.4.a.1. The test specified required local timing of the valve to verify it stroked in less than 30 seconds. However, because this is different than the normal P&V testing method it would not have provided the required baseline measurement of valve stroke time. Additionally, this testing would not have included the period of time from the "receipt of a signal for control rods to scram" until the valves receive a closure signal. The post modification testing requirement was changed, after approval for work, to require performance of the P&V test. It was not recognized at that time that the requirements of Technical Specification Surveillance 4.1.3.1.4.a.1 were still not going to be met.

Further review revealed that the surveillance procedure normally utilized to satisfy Technical Specification Surveillance 4.1.3.1.4.a.1, PPM 7.4.1.3.1.4.1 was also inadequate. This procedure used computer data to measure the closure time of the four drain and vent valves from the receipt of a scram signal. However, the computer point for valve closure is actually an indication that the valve is "not open" since it originates from the "open" limit switch. The computer point is incorrect in that it has both an open and a closed status displayed and recorded. Therefore, this Technical Specification requirement was not previously met.

The root causes for this event were: 1) less than adequate post maintenance testing in that improper post-modification testing was specified and performed, and 2) technical inaccuracies in surveillance procedure PPM 7.4.1.3.1.4.1.

Failure to meet Technical Specification Surveillance Requirement 4.1.3.1.4.a.1 is reportable pursuant to the requirements of 10CFR50.73(a)(2)(i)(B).

There were no structures, systems, or components inoperable prior to the start of this event that contributed to the event.

#### B. Further Corrective Action Completed

Following adjustment, testing of the four scram discharge volume drain and vent valves was performed as part of the July 18, 1992, startup and included verification that the valves did "Close within 30 seconds after receipt of a signal for control rods to scram" from a control rod density of less than or equal to 50 percent.

LICENSEE EVENT REPORT (ER) TEXT CONTINUATION											
FACILITY NAME (1)  Washington Nuclear Plant - Unit 2	DOCKET NUMBER (2)  0   5   0   0   0   3   9   7	LER NUMBER (8)						PAGE (3)			
		Year		Number		Rev. No.					
		9   2	0   3   5	0   0	4	OF	5				
TITLE (4) INADEQUATE TESTING OF THE SCRAM DISCHARGE VOLUME VENT AND DRAIN VALVES											

The Plant computer point has been corrected to indicate that the valves are either open or not fully open.

C. Further Corrective Action

Plant procedures will be changed to provide the necessary testing of the scram discharge volume vent and drain valves. These changes will be completed by March 30, 1993. This testing is required to be performed at least every 18 months.

A Technical Specification Amendment request will be submitted to allow performance of this testing with the Plant in a cold shutdown condition. This request will be submitted no later than December 31, 1992.

This LER will be made required reading for Plant Engineers responsible for implementing Plant Modifications. This reading will be completed by September 30, 1992.

In an effort to ensure continued compliance with the Technical Specification Surveillance Requirements a team of engineers will be assigned to perform a technical and compliance review of the Plant surveillance procedures. This team will begin work by November 1, 1992, and will review the surveillance procedures to ensure that they are technically accurate and that each of the surveillance requirements are satisfied by the Plant procedures.

Safety Significance

The scram discharge volume vent and drain valves are designed to close on a reactor scram to contain within the scram discharge volume the water discharged from the control rod drive mechanisms during a scram. P&V testing of the four vent and drain valves verified that the valves would close on demand. The only portion of the Technical Specification requirements not satisfied was the 30 second time limit for CRD-V-181. The vent and drain lines flow to the radioactive equipment drain system within the reactor building.

The scram discharge volumes are sized to hold all of the water discharged from the control rod drive mechanisms during a scram. Therefore, no flow through the vent lines would be expected. As described above, there are redundant valves on the vent line and the drain line. The inboard valve on each line closes in approximately two seconds, while the outboard valve closes in 25-30 seconds. Closure of the outboard valve in slightly greater than 30 seconds, therefore, does not affect isolation of the scram discharge volume following a scram.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION							
FACILITY NAME (1)  Washington Nuclear Plant - Unit 2	DOCKET NUMBER (2)  0   5   0   0   0   3   9   7	LER NUMBER (8)			PAGE (3)		
		Year	Number	Rev. No.			
		92	035	00	5	OF	5
TITLE (4) INADEQUATE TESTING OF THE SCRAM DISCHARGE VOLUME VENT AND DRAIN VALVES							

Proper functioning of the vent and drain valves is verified quarterly by performance of the P&V test. The worst case scenario, failure of the inboard valve to close and greater than 30 second closure of the outboard valve, could result in a small discharge of Control Rod Drive Hydraulic water to the Reactor Building radioactive drain system. This system is designed to receive this water. The Reactor Building where these drains are located is serviced by a safety-related, filtered and monitored ventilation system. Therefore, this event was not safety significant.

### Similar Events

LERs 91-013, 018, 019, 028, 036, and 92-002 identified instances of failures to meet the Technical Specification Surveillance Requirements. These LERs documented specific corrective actions, and discussed the Quality Action Team (QAT) authorized to address potential improvements in Technical Specification compliance at WNP-2. The surveillance review team described in the further corrective action section above is a direct result of the QAT recommendations.

### EIIS Information

#### Text Reference

#### EIIS Reference

#### System                      Component

CRD-V-181  
Scram Discharge Volume Drain Valve  
Scram Discharge Volume Vent Valve  
Control Rod Drive Mechanisms  
Control Rod Drive Hydraulic

AA                      ISV  
AA                      ISV  
AA                      VTV  
AA                      75  
AA                      75